

REMARKS

Claims 47-61 are pending in the Application. Claims 47, 48, 50-52, and 55-57 are amended; claims 49, 53, 54, and 58-61 are cancelled; and claims 62-66 are newly presented. Applicants request reconsideration and allowance of this Application in view of the above amendments and the following Remarks.

Course of Examination

Initially, Applicants wish to comment on the examination to date in this application. In particular, the Examiner issued an improperly final Office Action (March 9, 2005) then, responding to Applicants' remarks pointing out that error (May 9, 2005), withdrew it and apologized for the error in the subsequent, properly final Office Action (October 3, 2005). In that subsequent Office Action, the Examiner indicated certain subject matter to be allowable. Following the Examiner's lead, Applicants amended the claims to conform to that allowable subject matter (January 3, 2006) at considerable expense because of the additional independent claims.

In an about-face (March 14, 2006), however, the Examiner then rejected all claims as allegedly anticipated by Kohata '630 – a reference she had cited previously and over which she had already allowed subject matter. Explaining herself, the Examiner offered (emphasis in original) that “[u]pon reconsideration, Examiner provides rejections for all new Claims in which Kahota discloses all recited elements. *She sincerely apologizes for the inconvenience.*” Applicants responded appropriately (September 14, 2006).

Now, in the present Office Action, the Examiner rejects the claims under 35 U.S.C. § 112, first paragraph (alleged lack of support in the specification) for the first time and “apologizes for overlooking this issue”. She also rejects various claims under 35 U.S.C. 112, second paragraph (alleged ambiguity/inconsistency in claim terminology) for the first time and “apologizes for overlooking these important issues”.

Applicants respectfully lament the manner in which this prosecution has been handled. Applicants are entitled to thorough, studied examination (37 C.F.R. 1.104) and Office communications that are complete and clear (*id.*; M.P.E.P. § 707.07). Piecemeal examination is

supposed to be “avoided as much as possible” (M.P.E.P. § 707.07(g)). Given this, Applicants respectfully request that this Application be carefully reviewed for appropriate term extension upon allowance.

Rejection Under 35 U.S.C. § 112, First Paragraph

Claims 47-61 are rejected under 35 U.S.C. § 112, first paragraph, on the basis that the claim term “cam” is broader than what is disclosed in the specification, such that one having skill in the art would not understand “that the inventor(s), at the time of the application was filed, had possession of the claimed invention.” In particular, according to the Examiner, the specification only discloses rotation of an eccentric axis, e.g., an oval axis, a rectangular axis, etc., whereas the term “cam” is a broader term that constitutes new matter. Applicants traverse this rejection.

A cam is defined, for example, at www.dictionary.com as “a disk or cylinder having an irregular form such that its motion, usually rotary, gives to a part or parts in contact with it a specific rocking or reciprocating motion.” That is precisely what is disclosed in the specification (e.g., paragraph [0058]): “[s]ince the axis 505 is eccentric a rotation α_{ecc} of the axis 505 in the guide flange 530 will cause the valve house 520 to move up and/or down [i.e., reciprocate].” Applicants submit that one having skill in the art would clearly understand that that conversion of rotary motion of the axis to reciprocating motion of the house is the salient feature – irrespective of the particular cross-sectional configuration of the axis – and that that is the feature of which Applicants had possession at the time of the invention. Moreover, it is a fundamental principle of patent law – particularly in respect to the mechanical arts – that disclosure of a species supports claim language directed to the genus where, as here, one having skill in the art would understand that the genus is the concept of which an applicant had possession. Accordingly, Applicants traverse the rejection and request that it be withdrawn.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 47, 48, 53, and 55 are rejected under 35 U.S.C. § 112, second paragraph, on three bases a., b., and c. Applicants address these bases in turn.

a. The Examiner asserts that reciting in a given claim that a valve member is rotatably and/or axially displaced with respect to a shaft and that the valve member is engaged by a cam for axial displacement is confusing “because the latter specifies one type of displacement, whereas the former allows either or both types of ‘displacements’.” Applicants respectfully submit that there is nothing improper with or confusing about such recitation.

As explained above, a cam member may be used to drive reciprocating or oscillatory motion of an element which, as in the present case, can be (but is not necessarily limited to) axial (i.e., linear) motion of the element. However, just because the element is driven axially or linearly does not mean it can not also be driven rotationally, e.g., by a cam that is appropriately configured to impart rotational motion to the driven member while imparting axial motion to the driven member or, as in the exemplary third embodiment, by means (e.g., a pin-and-slot configuration) that are separate from and in addition to the linearly driving mechanism.

In any event, Applicants have obviated this issue by removing the “and/or” construct from the claims. In particular, independent claims 47 and 48 have been amended to recite just axial displacement of the first/at least one valve member; rotational displacement associated therewith, on the other hand, is recited in claims 52 (depending from claim 48) and 63 (depending from claim 47).¹ Independent claim 55, on the other hand, still recites axial as well as rotational displacement of the valve member, but it requires both types of displacement – not one type and/or the other type of displacement.

¹ Applicants note that in the third embodiment as illustrated in the specification, rotation of the valve member occurs simultaneously with axial displacement of the valve member. However, Applicants further note that claim 3 of the application as filed recited rotatable and/or axial displacement of the valve member. Accordingly, there is support in the application as filed for the concept of axial displacement of the valve member without rotational displacement necessarily occurring concomitantly with it.

b. The Examiner asserts that reference to “one valve member,” “valve member,” or “at least one valve member” is confusing where two of the above terms are used in the same claim since it is not known which valve member is being referenced. Applicants have amended the claims to sharpen the definition of which valve member is being referred to.

c. The Examiner asserts that recitation in a single claim that the valve is to be actuated and to be dynamically further actuated is unclear. Applicants disagree. In traditional Hydraulic Power Assist Steering units, basic assist actuation of a valve unit is what occurs in response to a steering input (“an applied torque” to the steering shaft). As explained in the Description of Related Art section of the application, such actuation follows a fixed or static response curve that is determined by the design of the valve. (See paragraph [0003] of the application.) According to the invention, however, steering assist characteristics can be modified dynamically (i.e., adjusted “on the fly”) in response to various vehicle condition inputs. Such modification is by the claim-referenced further actuation of the valve unit. In other words, actuation is the basic “control input” into the valve unit; further actuation is the fine-tuning “control input” into the valve unit.

In view of this, Applicants submit that the claims are perfectly clear and readily understandable by one having skill in the art. Accordingly, Applicants respectfully request that the rejection be withdrawn.

Rejection Under 35 U.S.C. § 102(b)

Claims 47-61 are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Kohata et al., U.S. Patent No. 5,511,630. According to the Examiner, Kohata discloses all claim-recited features, including “second member” 32 being axially displaced with respect to shaft 26 *“as best understood”* (italics in original). Applicants traverse this rejection.

“Member” 32 is a bevel gear that is fixedly attached to connecting member 30 extending from outer sleeve 28. The connecting member 30 is rotatably supported over the inner sleeve 25. Bevel gear 33, which is driven by torque motor 18, meshes with the bevel gear 32. Thus, when the torque motor 18 is actuated, it causes the outer sleeve 28 to rotate relative to the pinion shaft

23. See column 4, line 66 through column 5, line 11 and column 4, lines 24-29 of the '630 patent. There is nothing whatsoever in the '630 patent that discloses or suggests that one sleeve is displaced axially relative to the other sleeve or relative to a shaft upon further, dynamic actuation of the valve mechanism.

Moreover, nothing in the '630 patent discloses or suggests axial actuation of a valve sleeve member that is driven by means of a cam, nor does the '630 patent disclose or suggest combined axial and rotational displacement of a valve sleeve member. Accordingly, Applicants traverse the rejection and request that it be withdrawn.

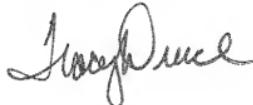
In view of the foregoing, Applicants submit that all claims are in condition for allowance, and timely Notice to that effect is respectfully requested.

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application.

The undersigned representative authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment, to Deposit Account No. 14-1437, referencing Attorney Docket No.: 6730.0056.NPUS00.

In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner may directly contact the undersigned by phone to further the discussion.

Respectfully submitted,



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